

12 mm., length of each of last four pairs of legs about 33 mm.

According to Jacquinot's figure, the female differs from the male in having the chelæ shorter and more slender, the opposing margins of the fingers with tufts of short setæ but without teeth.

*Colour.* Yellowish.

*Habitat.* New Zealand (Greymouth and Sumner) and Auckland Islands.\*

#### EXPLANATION OF PLATE V.

*Hymenosoma depressum*, Jacq. & Luc.

*Fig.* 1. Male, dorsal view,  $\times 2$ .

*Fig.* 2. Front, showing rostrum, eyes, &c.,  $\times$  about 8 times.

*Fig.* 3. Chela, outer side,  $\times$  about 8 times.

*Fig.* 4. Second and third legs,  $\times$  nearly 4 times.

XVI.—*Descriptions of new Species of Trochomorpha, Cochlostyla, Amphidromus, Bulimulus, Drymæus, Placostylus, Stenogyra, Leptopoma, Cyclophorus, Cyclotus, and Alyceus.* By HUGH C. FULTON.

[Plates IX. & X.]

*Trochomorpha modesta*, sp. n. (Pl. IX. fig. 1.)

Shell rather widely umbilicated, depressed, uniform brown colour; spire conic, apex smooth, rest of shell with fine oblique striæ crossed on the underside by microscopic spirals; whorls 6, convex, somewhat depressed near the suture, last sharply carinate and compressed at the margin; aperture very oblique; peristome rather thin, margins slightly thickened.

Mag. diam.  $10\frac{1}{2}$ , alt. 5 mm.

*Hab.* Sinkip Island, Straits of Malacca.

This form is allied to *T. billeana*, Mörch, but is smaller, has a slightly higher spire, broader umbilicus, and half a whorl more. *T. modesta* can also be distinguished from *T. billeana* by the slight depression just above the suture and keel of last whorl.

Readily separated from *T. castra*, Bens., by its wider umbilicus and uniform coloration.

\* [There are specimens of this species in the British Museum collection from Sumner and from Akareoa Heads. The legs are rather more slender than in Prof. Chilton's figures.—W. T. CALMAN.]

*Trochomorpha crassicarinata*, sp. n. (Pl. IX. fig. 2.)

Shell moderately solid, widely umbilicated, apex yellowish, remainder of shell of a uniform dark brown colour; whorls  $6\frac{1}{2}$ , slightly convex above, the last decidedly so below, first two smooth, others with rather conspicuous and irregular oblique striae, last whorl compressed and rounded at the keel; aperture very oblique, dark within; peristome simple, slightly thickened at basal and columellar portion.

Maj. diam. 20, alt. 8 mm.

*Hab.* Nias Island, N.W. Sumatra.

Chiefly characterized by its dark coloration and thickened keel.

*Trochomorpha niasensis*, sp. n. (Pl. IX. fig. 3.)

Shell rather thin, subtransparent, moderately umbilicated, light yellowish brown, suture of lower whorls and keel of last edged with dark brown; whorls 6, very slightly convex above, first one and a half smooth, others with oblique striae or growth-lines; aperture whitish within, oblique; peristome thin, somewhat thickened at columellar portion.

Maj. diam. 21, alt. 8 mm.

*Hab.* Nias Island, Sumatra.

This species differs from *T. crassicarinata* by its thinner substance, lighter coloration, narrower umbilicus, and its more rapidly increasing whorls, more especially noticeable on a comparison of the last whorl.

*Cochlostyla (Ani.ra) propitia*, sp. n.  
(Pl. IX. figs. 4-6.)

Shell imperforate, solid, subglobose, depressed, upper part light reddish, the lower dark, covered with a lighter yellowish-brown epidermis, which consists of oblique narrow streaks crossed on the last whorl by more or less distinct, narrow, interrupted bands of arrow-like markings; this coloration is continued to a point just below periphery of last whorl, the remainder of the underside being of a blackish-brown colour; whorls nearly 5, moderately convex, suture of lower whorls narrowly impressed, last whorl subangular and descending slightly at its termination; aperture suboval, bluish white within; peristome thickened and expanded, slightly reflexed, blackish brown, except the upper expanded columellar portion, which is whitish; columella oblique, thickened; margin of peristome connected by a slightly raised transparent callus.

Maj. diam. 40, alt. 30 mm.

Var. A (fig. 5).—Sharply keeled at the periphery. Maj. diam. 40, alt. 26 mm.

Var. B (fig. 6).—Globose. Maj. diam. 39, alt. 28 mm.

*Hab.* Cebu Island, Philippines.

(= *Moreleti*, Mlldff., non Pf., Bericht d. Senck. natur. Gesellsch. 1890, p. 238.)

This shell has been distributed by Möllendorff and others as *Cochlostyla (Anica) Moreleti*, Pf., but that species is (judging from the figure and description and specimens in the British Museum) but a specimen of *C. (Anica) Moutfortiana*, Pf., that has lost its epidermis.

*C. propitia* is closely allied to *C. carbonaria*, the chief difference being that the former is a thicker shell with a much lighter-coloured epidermis than the latter. *C. propitia* is also much larger generally and broader in proportion to height, and its peristome is more expanded; but these characters are not constant in the large series under examination.

The great variation in the form of *C. propitia* is shown by the three shells selected for description.

*Amphidromus cognatus*, sp. n. (Pl. IX. fig. 7.)

Shell sinistral, moderately solid, minutely perforate, smooth, shining, whitish ground, covered on lower whorls by a bright yellow periostracum; whorls nearly 6, slightly convex, first two dark reddish brown, remainder with dark bluish-grey, narrow, spiral bands, one at the suture and one above the middle, three on the last whorl, one about 2 mm. wide at the periphery, a similar one encircling the umbilicus, and a narrow one about 2 mm. below the suture, lines of growth rather conspicuous; aperture subovate, white, with the outer band showing clearly through; peristome white, moderately expanded.

Maj. diam. 17, alt. 31 mm.

*Hab.* —?

In the position of the colour-bands and their showing clearly through the aperture this species greatly resembles *A. hemicyclus*, Rochebrune, but the latter is much narrower—so narrow that one almost doubts the correctness of the dimensions given, viz.: long. 30, lat. 10 mm.

*Amphidromus niasensis*, sp. n. (Pl. IX. fig. 9.)

Shell sinistral, moderately thin, finely obliquely striated, nucleus of a semitransparent waxy colour, rest of shell with light reddish ground ornamented by rather broad oblique

stripes which are intersected in the middle by a narrow spiral band of lighter colour; the under part of last whorl has a rather broad dark brown band situated just below the periphery and a narrower one lower down, between which is a yellow one, umbilical area reddish; whorls 6, convex, rather slowly increasing; aperture with outer markings showing through; peristome slightly expanded, flesh-colour; columella vertical, flesh-coloured, rounded and slightly expanded at point of insertion.

Maj. diam. 17, alt. 30 mm.

*Hab.* Nias Island, Sumatra.

Although totally distinct in coloration, the details of this species agree very closely with *A. Sowerbyi*; but the whorls of *niasensis* are slightly more convex and increase a little slower in size than those of *A. Sowerbyi*.

It is also similar to *pacilochroa*, Fult., in form and markings, but is thinner and its whorls are more convex.

*Amphidromus Sowerbyi*, sp. n. (Pl. IX. fig. 10.)

Shell sinistral, thin, umbilicus almost closed, nucleus dirty white with a brown spot at the apex; lower whorls yellow, with six narrow dark brown spiral bands on the middle whorls, the last whorl having two broader bands in front, one situated just below the periphery and the other a little lower, umbilical area yellow, finely obliquely striated; whorls  $6\frac{1}{2}$ , moderately convex, rather slowly increasing; aperture with the outer bands showing through; peristome very narrowly expanded, waxy colour; columella vertical, narrowly expanded at point of insertion.

Maj. diam. 17, alt. 31 mm.

*Hab.* Nias Island, Sumatra.

This new form bears a great resemblance in coloration and markings to some of the varieties of *Helix nemoralis*, Linn. The number of bands varies, one specimen before me having only a single narrow peripheral band.

Named in honour of my esteemed and genial colleague, G. B. Sowerby, Esq., F.L.S.

*Amphidromus Webbi*, sp. n. (Pl. IX. fig. 8.)

Shell sinistral, moderately solid, earlier whorls yellow, fading to cream on lower whorls, with a broad lightish chestnut band about 14 mm. wide encircling the last whorl and continued as a narrow ever-diminishing band at suture of penultimate whorl; whorls  $6\frac{1}{4}$ , moderately convex, with inconspicuous oblique growth-lines, last ascending slightly at

its termination ; aperture subovate, white within ; peristome rather broadly expanded and slightly reflected ; columella vertical, expanded above.

Maj. diam. 31, alt. 51 mm.

*Hab.* Nias Island, Sumatra.

A handsome and distinct new form, which can be readily separated from *A. enganoensis*, Fult., by its much less convex whorls and less broadly dilated columella.

Named in honour of Walter F. Webb, Esq., of Rochester, New York.

*Bulimulus (Protoglyptus) dejectus*, sp. n.  
(Pl. X. fig. 1.)

Shell very narrowly umbilicated, acuminate elongate, rather thin, covered with yellowish-brown epidermis, white beneath, apical structure consisting of oblique, microscopic, wrinkled or granular striæ, lower part with inconspicuous oblique striæ or lines of growth crossed by close-set spiral rows of minute hairs ; whorls 8, slightly convex, regularly increasing, the last not deflected ; suture rather deep, simple ; aperture suboval, white within ; peristome very slightly expanded, broader at point of insertion of columellar portion, margins joined by a thin transparent callus.

Maj. diam. 10, alt. 29 mm.

*Hab.* Santa Catharina (*vide* Linnæa Institute label).

The nearest species to this known to me is *crepundia*, Orb., but that is readily separated by its less cylindrical form.

*Drymæus volsus*, sp. n. (Pl. X. fig. 2.)

Shell elongately fusiform, minutely rimate, rather thin, almost smooth to the eye, but under the lens the usual *Drymæus* sculpture on nuclear whorls, while the lower whorls have oblique blunt costæ or lines of growth crossed by microscopic close-set spiral striæ ; whorls  $6\frac{1}{4}$ , slightly convex, first three and a half dirty white, lower with cream ground ornamented by irregular, oblique, somewhat zigzag, dark brown stripes which are broken by narrow white lines and dots ; aperture oblong-oval, dark brown markings within ; peristome rather broadly expanded, especially at the basal portion, pale yellow ; columella narrow and cord-like, entering spirally.

Maj. diam.  $12\frac{1}{2}$ , alt.  $30\frac{1}{2}$  mm.

*Hab.* Ecuador.

I know of no other species with which to make a helpful comparison.

Mr. S. I. Da Costa, who has made a special study of this genus, is unable to identify it with any species known to him.

*Placostylus (Euplacostylus) cylindricus*, sp. n.  
(Pl. X. fig. 3.)

Shell elongate, almost imperforate, solid; spire reddish, lower part covered by a greenish-brown cuticle; whorls  $6\frac{1}{2}$ , slightly convex, rather rapidly increasing, last two with longitudinal growth-lines, crossed on middle whorls by obscure spiral lines, giving the appearance under the lens of a somewhat reticulated surface, last whorl indistinctly malleated in parts; aperture ear-shaped, dirty white within; peristome thickened, expanded inwardly, white, outer edge yellowish, margins connected by a thin callus, columella with a white, thick, spirally entering fold.

Maj. diam. 23, alt. 71 mm.

Peristome: maj. diam. 27, alt. 33 mm.

*Hab.* Isabel Island, Solomons (*Meek*).

Separated from *Seemani*, Dohrn, by its narrow cylindrical form, more rapidly increasing whorls, and much shorter peristome.

From *koroensis*, Garrett, to which it has some resemblance in form, it can be easily distinguished by its larger size and dark-coloured epidermis. Of the three specimens before me none appear to have the punctures found on the spiral whorls of the two above-mentioned species; but that character may have been worn off.

*Stenogyra (Euonyma) Beckeri*, sp. n.  
(Pl. X. fig. 7.)

Shell elongately fusiform, moderately thin, polished, sub-transparent, nucleus whitish, lower whorls of a pale olive-greenish colour; apex obtuse, rounded; whorls 12, slightly convex, first three smooth, slowly and regularly increasing, lower whorls with indistinct lines of growth, slightly crenulated at the suture; aperture oblong-oval; columella slightly curved, white, slightly expanded; peristome continuous with columella, thin.

Maj. diam. 10, length 44 mm.

Length of aperture 9, width 5 mm.

*Hab.* Pondoland (*Dr. H. Becker*).

Differs from *S. Purcelli*, Melv. & Pons.\* (the type of

\* Ann. & Mag. Nat. Hist. 1901, vol. viii. p. 317, pl. ii. fig. 6.

which is a young shell), by its broader form and more rapidly increasing whorls. In *Beckeri* the first two whorls are smooth, whereas in *Purcelli* they are distinctly crenulated at the suture.

This comparison was made with the type of *Purcelli*, now in the British Museum, and a young specimen of *S. Beckeri*. In the description of *S. Purcelli* the species is characterized as having *no sculpture*, but that is not correct; the figure also gives one the idea of a broader form than that of the actual type.

*Leptopoma niasense*, sp. n. (Pl. X. fig. 6.)

Shell glabrously conic, narrowly umbilicated, thin, sub-transparent, very light brownish ground with darker-coloured raised spiral striæ, about 6 on middle whorls; between these are close-set microscopic spirals, a patch of darker brown at umbilical area; whorls 5, moderately convex, last subcarinate in front; aperture circular, rather dark within; peristome expanded, whitish both front and back, margins approximating and joined by a thin callus; operculum corneous, thin, 8 whorls.

Maj. diam. 14, alt. 13½ mm.

*Hab.* Nias Island, N.W. Sumatra.

Similar to *L. pellucidum*, Grat., but can be readily separated by its slightly broader peristome and dark-coloured umbilical area.

The species varies somewhat in coloration, some specimens having patches of a smoke-colour and others being banded.

*Cyclophorus (Theobaldius) Dautzenbergi*, sp. n.  
(Pl. X. fig. 8.)

Shell depressed, spire plane, moderately solid, widely umbilicated, dark brown, with rather distant oblique streaks of lighter colour; whorls 4¾, convex, closely obliquely striated, upper part of last whorl with five or six more or less distinct spiral striæ, which stop short on the penultimate whorl, third of last whorl slightly and gradually descending; aperture circular, bluish white within; peristome with yellowish-white edge, surrounded by a dark-coloured flange, giving the peristome a duplex appearance; operculum corneous, fairly solid, about 12 whorls.

Maj. diam. 25, alt. 10 mm.

*Hab.* Nias Island, N.W. Sumatra.

Bearing a likeness to the Ceylon species *C. Layardi*, Ad.,

but easily distinguished by its flatter form and smaller aperture.

Some specimens are almost a uniform brown, whilst others are strikingly marked with yellowish-white, narrow, oblique streaks.

Named after Mons. Ph. Dautzenberg, one of our most esteemed conchologists.

*Cyclophorus (Cyclohelix) Kibleri*, sp. n.  
(Pl. X. fig. 4.)

Shell turbate, very narrowly umbilicated, very solid, nucleus consisting of  $2\frac{1}{2}$  whorls, first one and a half smooth, the next with rather distant curved striae, remainder of shell with fine oblique striae, crossed by close-set microscopic spirals which are waved on the underside of body-whorl, rich dark brown colour, with numerous irregularly shaped spots and streaks of lighter colour; on the underside of shell the markings take a more regular spiral pattern; whorls  $5\frac{1}{2}$ , convex, the last a little flattened below; aperture orange-coloured within, very oblique, subirregularly oval; peristome orange, well thickened, margins approaching and connected by a transparent callus, columellar portion sloping towards the right, with a blunt tooth-like projection about the middle; operculum corneous, thin, about 8 whorls.

Maj. diam.  $31\frac{1}{2}$ , alt. 27 mm.

*Hab.* Nias Island, N.W. Sumatra.

This shell is of a similar form to *C. turbo*, Chem., from the Nicobar Islands, but cannot possibly be confused with that or any other species of the genus known to me.

*Cyclotus niasensis*, sp. n. (Pl. X. fig. 9.)

Shell depressed, spire almost plane, apex dark coloured, somewhat roughened and slightly exserted, rather thin, covered with a somewhat thick closely striated epidermis; whorls  $4\frac{1}{2}$ , moderately convex, last shortly and slightly descending, suture deep; aperture circular, bluish white within; peristome with narrow outer flange; operculum calcareous, whorls 9.

Maj. diam. 15, alt. 6 mm.

*Hab.* Nias Island, Sumatra.

The nearest to this known to me is *C. discoideus*, but *C. niasensis* is smaller, the peristome does not descend so far, and the epidermis appears to be thicker.



*Alycaeus (Chamaelycaeus) Smithi*, sp. n.  
(Pl. X. fig. 5.)

Shell depressed-turbinate, dirty white, rather widely umbilicated; whorls 4, first smooth, remainder with oblique striæ which are rather widely spaced on first half of last whorl, then suddenly become very close, widening out again immediately before the strangulated portion, which is situated about one third of a whorl from the peristome, last whorl shortly descending; aperture circular; peristome rather thick, duplex; sutural tube rather long; operculum thin, whitish, concave, with 9 or 10 whorls.

Maj. diam. 4, alt. 2 mm.

*Hab.* Mengtzu, Yunnan (*vide* Carl Bock).

Very like *A. plicilabris*, Mölldff., but has no plicæ on the peristome, the striæ immediately behind the strangulation are similar, but the striæ on the earlier part of the whorl are closer than in Möllendorff's species.

From *A. rathousianus*, Heude, it differs by being smaller, has a more strongly produced duplex peristome, and its sculpture on the last whorl is finer.

Named in honour of Edgar A. Smith, Esq., I.S.O.

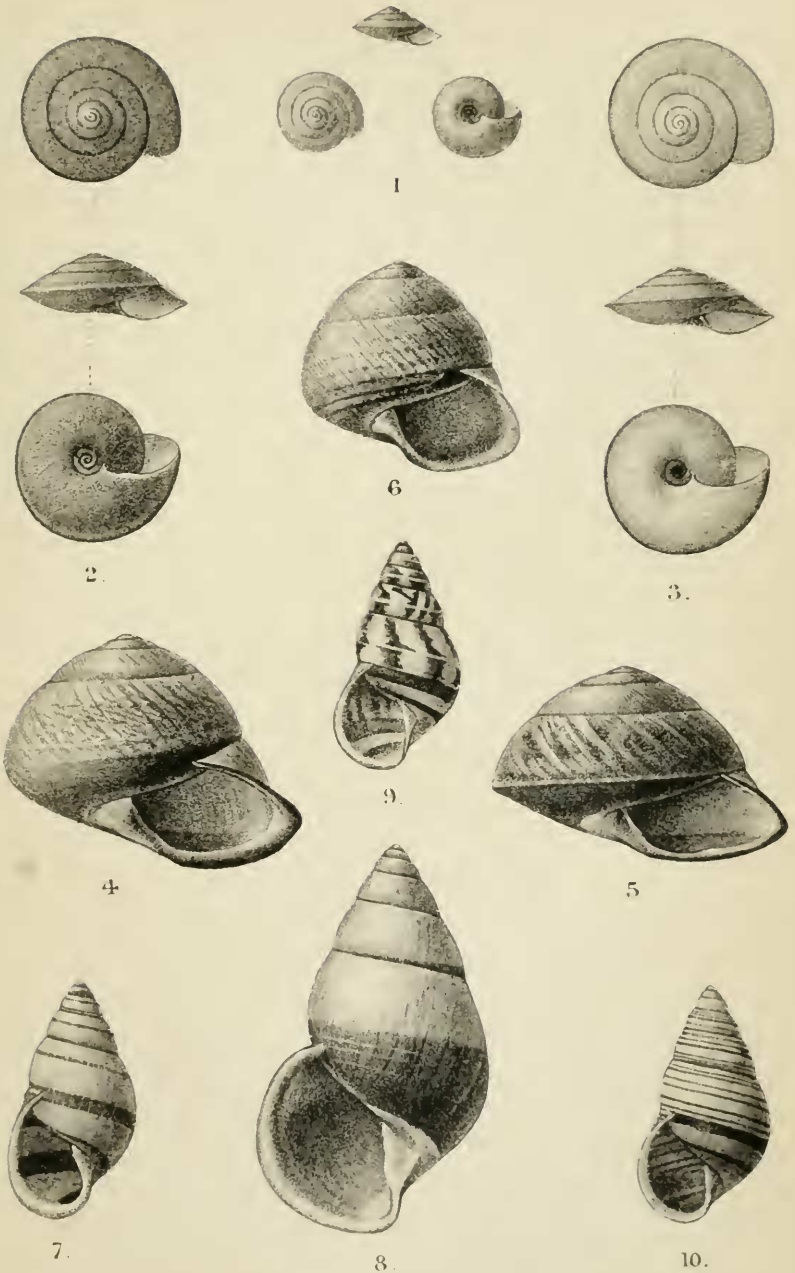
EXPLANATION OF THE PLATES.

PLATE IX.

- Fig. 1. *Trochomorpha modesta*.  
Fig. 2. — *crassicarinata*.  
Fig. 3. — *niasensis*.  
Fig. 4. *Cochlostyla propitia*.  
Fig. 5. — —, var. A.  
Fig. 6. — —, var. B.  
Fig. 7. *Amphidromus cognatus*.  
Fig. 8. — *Webbi*.  
Fig. 9. — *niasensis*.  
Fig. 10. — *Sowerbyi*.

PLATE X.

- Fig. 1. *Bulinulus dejectus*.  
Fig. 2. *Drymaeus volsus*.  
Fig. 3. *Placostylus cylindricus*.  
Fig. 4. *Cyclophorus Kibleri*.  
Fig. 5. *Alycaeus Smithi*.  
Fig. 6. *Leptopoma niasense*.  
Fig. 7. *Stenogyra Beckeri*.  
Fig. 8. *Cyclophorus Dautzenbergi*.  
Fig. 9. *Cyclotus niasensis*.





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